NEW RECORDS OF ENCYRTID PARASITOIDS OF *KERMES PALESTINIENSIS* BALACHOWSKY (HEMIPTERA: KERMESIDAE), WITH THE DESCRIPTION OF A NEW SPECIES OF *BLASTOTHRIX* MAYR (HYMENOPTERA: ENCYRTIDAE) FROM TURKEY[1]

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ABSTRACT: A new species of the encyrtid wasp genus *Blastothrix* Mayr is described from Turkey. All specimens of the type series of *B. gurselae* n. sp. were reared from *Kermes palestiniensis* Balachowsky on Turkey oak, *Quercus coccifera*. New records of the parasitoids of *K. palestiniensis* in Turkey is given.

KEY WORDS: *Kermes palestiniensis,* Hemiptera, Kermesidae, *Blastothrix gurselae,* Encyrtidae, Turkey.

Chalcid parasitoids are important in regulating the populations of many insect species (Trjapitzin, 1989). Some information about beneficial species of *Chalcidoidea* in Turkey is available (Doganlar, 1985; Trjapitzin and Doganlar, 1997; Japoshvili and Karaca, 2002). However, such information is missing for the Isparta Province, Turkey. The objective of our study was to identify and catalogue parasitoids within this region. Studies were undertaken from June to October in 2001 and 2002 in different regions of the Isparta Province.

The terminology used in the description of the new species follows that of Trjapitzin (1989), Noyes and Woolley (1994) and Noyes et al. (1997). Material of the new species was compared with specimens of type material of *Blastothrix erythrostetha* (Walker) in the Francis Walker collection in Oxford (HDOU), also with material which was borrowed from the collection of the Entomology Research Museum, University of California, Riverside, California, USA (UCRC) and St. Petersburg Museum of Zoology collections (ZIN). Acronyms for other depositories of the specimens are as follows: IZGAS, Institute of Zoology, Georgian Academy of Sciences, Tbilisi, Georgia; AFSDU, Agricultural Faculty, Suleyman Demirel University, Isparta, Turkey; NHM, The Natural History Museum, London, UK.

Abbreviations used in the text include: F1, F2, etc., first funicule segment, second funicle segment, etc.; FV, minimum frontovertex width; GL, maximum gonostylus (= third valvula) length; HW, maximum head width; MT, mid tibia

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length; OCL, occipital-ocelar line (= the shortest distance between each of posterior ocelus and occipital margin); OL, ovipositor length; OOL, ocular-ocelar line (= the shortest distance between posterior ocelus and adjacent eye margin); AOL, distance between posterior and anterior ocelli; POL, posterior ocelar line (= the shortest distance between the posterior ocelli); SL, scape length; SW, maximum scape width.

Blastothrix gurselae, NEW SPECIES

(Figs. 1-7)

Diagnosis. The new species is most closely related to *B. erythrostetha* [lectotype and material deposited at the University of California (Riverside, CA) of *B. erythrostetha* examined). Both species are diagnosed below.

Blastothrix erythrostetha. Female: Lectotype. Vertex about as wide as 1/3 of head. Diameter of ocelli almost equal to distance between posterior ocelli and eye margin. Legs yellow, only fore coxa slightly darker in the basal part and tibiae in the basal part with a little dark smut. Unfortunately on the lectotype antennae of it missing (Graham, 1969). Flagellum F1 and F2 dark and F3 slightly dark. Clava equal or slightly longer than F5 and F6 together. F1, F2 - 2.7-3; F3 - 2-2.2; F4 - 1.5-1.7; F5 - 1.3-1.5; F6 - 1-1.1 as long as wide. Fore tibia more then 4 x as long as wide. Ovipositor longer than midtibia.

Blastothrix gurselae sp.n. Female: Holotype. Vertex about as wide as 1/3.5 of head. Diameter of ocelli 2 x greater than distance between posterior ocelli and eye margin. All coxae dark, metafemur dark with a yellow apical part, mesofemur dark in basal half, fore femora dark in the middle and this infuscation separated by yellow band in length. All tibiae with infuscation in basal half. Clava slightly shorter than F4, F5, and F6 together. F1 - 2; F2 - 1.6; F3 - 1.44; F4 - 1.25; F5 - 1.13; F6 - 0.9 as long as wide. Foretibia not more then 4 x as long as wide. Ovipositor shorter then midtibia.

Description of *Blastothrix gurselae.* Female. Length 1.5-2.0 mm, holotype 1.63. Body dark, with some parts metallic. Frontovertex, pronotum, mesoscutum, scutellum, and metanotum with a green-bronze metallic luster. Mesopleuron dark yellow. Gaster brownish. Scape dark brown, pedicel also dark brown, with a pale apical part. Flagellum with F1,F2,F3,F4 segments dark. Clava dark brown. Wings hyaline. All coxae dark. Hind and middle femora with basal half dark, forefemur with darkness in the middle and this darkness is separated by yellow band in length. All tibiae in basal part with darkness.

Head width/height 29:25 and length/width 13:29. Vertex about as wide as 9:29 of head. Occipital margin tucked in. Inner orbits of eye slightly diverging anteriorly. Ocelli in a slightly acute triangle (about 80-85°). Distance between posterior ocelli 1.5 x more than distance between posterior ocelli and anterior ocellus. Diameter of ocelli 2 x greater than distance between posterior ocelli and eye margin. Distance between anterior ocellus and eye margin less than distance between posterior ocelli (35:30). Width of oral aperture about 1/3 head width. Malar space about 2/3 maximum height of eye. Mandible with one tooth and a truncation (Fig. 5).

Antenna. Antenna inserted slightly below lower eye margin. Distance between toruli 2 x distance from torulus to mouth margin. Scape strongly flattened (Fig.1), 1.46 x longer then maximum width. Pedicel almost as long as funicle first segment. F1 - 2 (14:7), F2 - 1.6 (12:7.5), F3 - 1.44 (13:9), F4 - 1.25 (13:10.5), F5 - 1.13 (13:11.5), F6 - 0.9 (12:13). Clava 1/2 x as broad as long, its length slightly less than length of F4, F5, F6 segments together (36: 39).

Mesosoma very slightly convex. Pronotum short; mesoscutum 1.5 x as wide as long; scutellum 1.14 x as wide as long, and slightly shorter than mesoscutum. Propodeum very short medially and well developed laterally.

Wings not reduced, reaching apex of gaster. Fore wing about 2.5 x as long as its maximum width. Costal cell 7.8 x as long as wide. Marginal vein (Fig. 7) equal to stigmal and both of them almost equal to postmarginal vein.

Gaster slightly shorter than mesosoma. Ovipositor practically not exserted. Pygostiles inserted slightly at low level of middle of gaster. Outer plate of ovipositor 2 x as long as wide (Fig.3). Maximum gonostylus length of ovipositor 0.15 x as long as ovipositor and 2 x as long as wide. Relative measurements: HW 58; FV 18; PAL 6,5; POL 9; OOL 2; OCL 4; MT 56; OL 47; GL 7; SL 29; SW 19.5.

Sculpture and pubescence. Head, pronotum, mesoscutum, scutellum, metanotum, mesopleura and sides of propodeum reticulate, with white or silver setae.

Male. Length 1.25-1.75 mm. Frontovertex and body as in female, but all body dark with a green luster (without yellow), and with white setae. Fore coxa basally, and meso- and meta-coxae dark; tibiae with infuscation. Ocelli in a slightly obtuse triangle (almost 110-115°). Distance between posterior ocelli 2 x more than distance between posterior ocelli and anterior ocellus. Antenna (Fig. 2). Scape broadened and flattened, about 2 x as long as wide. Pedicel small, rounded, as long as wide. Flagellum with long setae; length of F1:F2:F3:F4:F5:F6:Clava as 19:20:23:24:21:18:30. Width is same for all flagellum and clava. Clava 3 x as long as wide. Mesoscutum about 2 x as wide as long. Fore wing 2.5 x as long as its greatest width. Genitalia as in Fig. 4.

Type Material. Holotype female on card labeled: "*Blastothrix gurselae* Japoshvili and Karaca, 10.VII.2002. (Sutcular), Isparta, Turkey. Ex *Kermes palestiniensis* Balachowsky on *Quercus coccifera*." Holotype deposited in ZIN. Paratypes: same data as holotype, 1♀ and 1♂ on card [AFSDU]; 1♀ and 1♂ on card Natural History Museum Entomology collection, London, UK [NHM]; 2♀, 1♂ on 3 cards, 3♀ and 1♂ on slides; as well as 9♀ and 6♂ in alcohol [IZGAS].

Etymology. This species is named in honor of the Turkish mycologist Dr. Gursel Karaca.

Geographical Distribution. Known from *Q. coccifera* forests in Isparta Province, Turkey.

Host. *Kermes palestiniensis* Balachowsky (Hemiptera: Kermesidae).

Comments. Like other species of the genus, *B. gurselae* n. sp. may not be monophagous; its range of probable Kermes hosts in the area of origin remains to be investigated.

Cheiloneurus quercus Mayr, 1876

Comments. Known as a secondary parasitoid of *Kermes nakagawae* Kuwana on an oak in Primorskiy Kray (Russia) and also from *K. miysakii* Kuwana and *K. nakagawae* (Hemiptera: Kermesidae) on oaks, and from *Eulecanium* spp. (Hemiptera:Coccidae) in Japan.

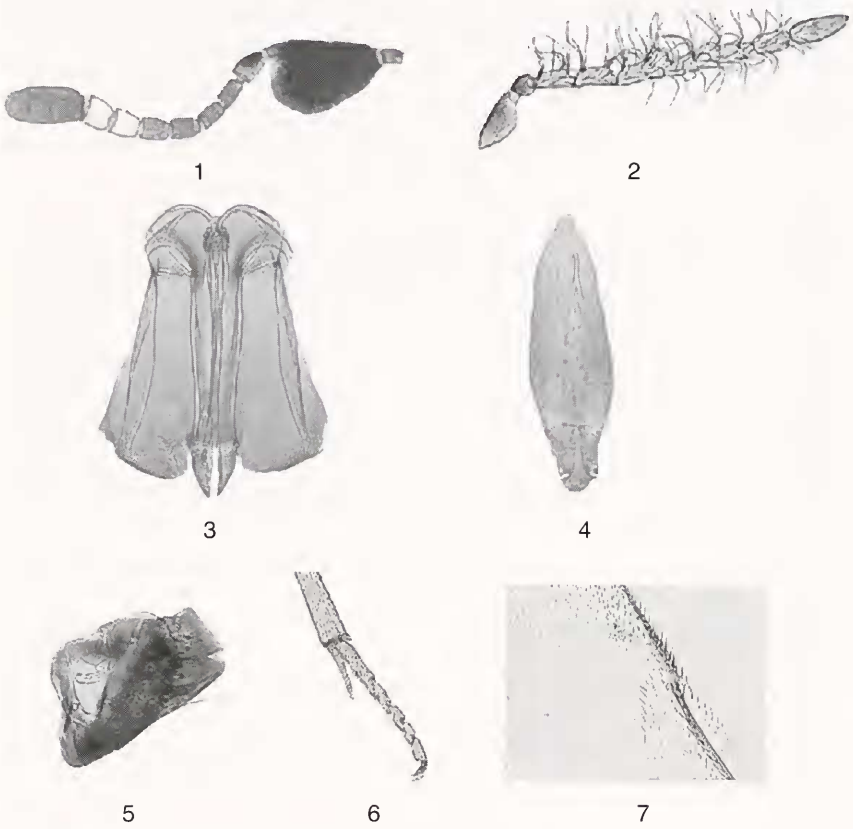
Geographical Distribution. This species is also known from Hungary and Italy (Trjapitzin, 1989). It is first recorded here from Turkey.

Material examined. Turkey, Isparta, Sutcular, 11.VII.2002, G. Japoshvili, 1 ♀.

Psilophrys tenuicornis Graham, 1969

Comments. This species is known as a parasitoid of *Kermes roboris* (Fourcroy), *K. corticalis* (Nassonov), *K. bacciformis* Leon, *K. ilicis* L. (Kermesidae) on oaks *(Quercus* spp.*)*.

Geographical Distribution: Almost all Europe. This species is recorded for the first time for the fauna of Turkey.



Figures 1-7. Blastothrix gurselae new species 1. Antenna, female; 2. Antenna, male; 3. Ovipositor; 4. Gentalia, male; 5. Mandible, female; 6. Middle tarsus, female; 7. venation of fore wing, female.

Material examined. Turkey, Adada, Suteular, 10-26.VII.2002, G. Japoshvili, 39♀ 4♂.

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